

### **REMARKS/DISCUSSION OF ISSUES**

By this Amendment, Applicant amends claim 16. Accordingly, claims 1-20 are pending in the application.

Reexamination and reconsideration are respectfully requested in view of the following Remarks.

#### **35 U.S.C. § 103**

The Office Action rejects claims 1-20 under 35 U.S.C. § 103 over Choi et al. U.S. Patent 7,092,455 ("Choi") in view of Brett et al. U.S. Patent Application Publication 2002/0001349 ("Brett").

Applicant respectfully traverses these rejections for at least the following reasons.

#### **Claim 1**

The Office Action cites FIGs. 1, 2 and 11 as supposedly disclosing the claimed system, except for packet formatter and interleaver.

Applicant respectfully disagrees.

FIG. 1 shows a conventional ATSC 8T-VSB transmitter. FIG. 1 clearly does not disclose either the multiplexer of claim 1, or the processing unit of claim 1 and cannot possibly correspond to the system of claim 1. Indeed, when citing reference numerals for the individual elements of claim 1, the Office Action does not cite a single reference numeral from FIG. 1.

So FIG. 1 does not disclose the system of claim 1.

FIG. 2 shows a conventional ATSC 8T-VSB receiver. It should go without saying that the receiver of FIG. 2 cannot possibly correspond to the system for multiplexed transmission of claim 1. And, again, we see that FIG. 2 clearly does not disclose either the multiplexer of claim 1, or the processing unit of claim 1 and cannot possibly correspond to the system of claim 1.

Finally, we turn to FIG. 11 from which the Office Action cites all of the elements of claim 1 except one (not including the packet formatter and interleaver for which Brett is cited). FIG. 11 shows a VSB transmission system for transmitting

supplemental data together with MPEG image/sound data in a way that is still compatible with existing ATSC 8T-VSB receivers. To do this, Choi discloses two systems (FIGs. 3 and 11) which process the supplemental data so that its structure appears identical to MPEG transport packets.

Turning back again now to claim 1, among other things, the system of claim 1 includes a processing unit deinterleaving encoded data packets produced by the one or more units, removing a trailing portion from each encoded data packet, and derandomizing a remaining portion of each encoded data packet.

Applicant respectfully submits that the cited art does not teach the aforementioned processing unit that derandomizes a remaining portion of each encoded data packet.

The Office Action cites elements 65 and 66 of FIG. 11 of Choi as supposedly showing the processing unit of claim 1.

However, elements 65 and 66 of FIG. 11 of Choi do not **derandomize a remaining portion of each encoded data packet.**

Thus the Office Action cites element 19 in FIG. 2 of Choi as disclosing a derandomizer. And indeed, element 19 in FIG. 2 of Choi is a derandomizer. However, element 19 in FIG. 2 of Choi is part of a standard ATSC 8T-VSB **receiver.** The Office Action fails to explain how or why it is believed that Choi discloses such a derandomizer as part of the processor of FIG. 11 – where it would need to be in order to perform the derandomizing function recited in claim 1. Indeed, inserting such a derandomizer into elements 65 and 66 of FIG. 11 of Choi would destroy its proper operation. This can be seen, among other things, in the fact that Choi explicitly teaches that the ATSC 8T-VSB transmitter 67 in FIG. 11 that follows elements 65 and 66 should “*not have a data randomizer.*” See col. 8, lines 36-42. So not only does Choi fail to disclose a system with the recited processing unit that derandomizes a remaining portion of each encoded data packet, but Choi cannot even be properly modified to include such a feature (see M.P.E.P. § 2143.01).

Accordingly, for at least these reasons, Applicant respectfully submits that claim 1 is patentable over the cited art.

Claims 2-10

Claims 2-10 all depend from claim 1 and are deemed patentable for at least the reasons set forth above with respect to claim 1, and for at least the following additional reasons.

Claim 3

Among other things, the system of claim 3 includes a parity byte generator operating in conjunction with a trellis encoder to generate parity bytes for normal data switched by the multiplexer.

The Office Action fairly admits that Choi does not disclose a parity byte generator operating in conjunction with a trellis encoder.

However, the Office Action states that Brett discloses a parity byte generator as element 82 in FIG. 4, and also cites text at paragraphs [0045] through [0050] of Brett.

FIG. 4 in Brett does not include any element 82. Applicant submits that FIG. 4 also does not show any parity byte generator. Further, element 82 – which is shown in FIG. 7 – is a Reed-Solomon encoder, not a parity byte generator operating in conjunction with the trellis encoder to generate parity bytes for normal data switched by a multiplexer. Choi's FIG. 11 already includes a Reed-Solomon encoder – it does not appear to make any sense to add another one, and would also appear to make the output of Choi's transmitter incompatible with standard ATSC 8T-VSB receivers, and thereby would defeat Choi's main objective. Furthermore, the undersigned attorney sees nothing in the text at paragraphs [0045] through [0050] of Brett that discloses a parity byte generator operating in conjunction with the trellis encoder to generate parity bytes for normal data switched by a multiplexer.

Accordingly, for at least this additional reason, Applicant respectfully submits that claim 3 is patentable over the cited art.

Claim 5

Among other things, in the system of claim 5, the removed trailing portion comprises parity bytes for data packets containing normal data and encoded data for data packets containing robust data.

The Office Action states that:

*"Choi et al further discloses (in fig. 11) wherein the removed trailing portion (66) comprises parity bytes for data packets containing robust containing normal data (sic) (MPEG data) and encoded data (input to multiplexer 62 data packets data (sic) (61) (sic) (col. 8, lines 43-49)."*

At the outset, Applicant respectfully submits that this does not even make any sense.

Furthermore, Applicant respectfully submits that Choi does not disclose that the removed trailing portion comprises parity bytes for data packets containing normal data and encoded data for data packets containing robust data.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 5 is patentable over the cited art.

#### Claim 6

Among other things, in the system of claim 6, the processing unit includes a trellis deinterleaver and a main deinterleaver operating sequentially on data packets received from the one or more units; and a derandomizer operating on data packets after removal of the trailing portion.

The Office Action states that Choi's element 65 corresponds to the recited processor, and includes the trellis deinterleaver and the derandomizer. However, the office Action cites elements 17 and 19 from FIG. 2 of Choi as supposedly corresponding to the recited trellis deinterleaver and the recited derandomizer.

FIG. 2 shows a standard ATSC 8T-VSB receiver.

The Office Action fails to explain how or why it is believed that elements 17 and 19 of a standard ATSC 8T-VSB receiver are also somehow included in the processing unit 65 of Choi's ATSC transmission system of FIG. 11.

Applicant respectfully submits that Choi's ATSC transmission system does not include a processing unit which includes the trellis deinterleaver and the derandomizer of claim 1. Indeed, in contrast to a trellis deinterleaver, Choi very

clearly teaches that processing unit 65 performs a convolutional encoding operation. And as explained above with respect to claim 1, Choi's transmission system does not perform the recited derandomization.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 6 is patentable over the cited art.

Claim 8

Among other things, the system of claim 8 forwards the packets to a standard VSB modulator which further comprises a data randomizer.

Choi specifically teaches away from any data randomizer being included in his ATSC 8T-VSB transmitter 67 of FIG. 11. See col. 8, lines 36-42.

Accordingly, for at least this additional reason, Applicant respectfully submits that claim 8 is patentable over the cited art.

Claim 10

Among other things, in the system of claim 10, the enhanced vestigial sideband encoder is implemented within a studio and the standard vestigial sideband modulator is implemented with a transmitter.

Without any explanation, the Office Action states:

*"the enhanced vestigial sideband encoder is implemented within a studio (receiver)"*

Of course a receiver is not a VSB encoder. Furthermore, the Office Action fails to explain how or where it is disclosed that some "*receiver*" corresponding to the enhanced vestigial sideband encoder of claim 10 is implemented within a studio.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 10 is patentable over the cited art.

Claim 11

Among other things, the method of claim 11 includes processing the encoded data packets by deinterleaving the encoded data packets, removing a trailing portion from each encoded data packet, and derandomizing a remaining portion of each

encoded data packet.

As explained above with respect to claim 1, no combination of the cited art would produce a method that includes the aforementioned processing of the encoded data packets that includes derandomizing a remaining portion of each encoded data packet.

Accordingly, for at least these reasons, Applicant respectfully submits that claim 11 is patentable over the cited art.

Claims 12-18

Claims 12-18 all depend from claim 11 and are deemed patentable for at least the reasons set forth above with respect to claim 11, and for at least the following additional reasons.

Claim 13

Among other things, the method of claim 13 includes generating parity bytes for normal data switched from the normal data inputs.

For similar reasons to those set forth above with respect to claim 3, the cited art fails to disclose any method of multiplexed transmission that includes generating parity bytes for normal data switched from the normal data inputs.

Accordingly, for at least this additional reason, Applicant respectfully submits that claim 13 is patentable over the cited art.

Claim 15

Among other things, in the method of claim 15 the removed trailing portion comprises parity bytes for data packets containing normal data and encoded data for data packets containing robust data.

The rejection of claim 15 is identical to the rejection of claim 5, and again, Applicant respectfully submits that it does not make any sense.

Furthermore, Applicant respectfully submits that Choi does not disclose that the removed trailing portion comprises parity bytes for data packets containing normal data and encoded data for data packets containing robust data.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 15 is patentable over the cited art.

Claim 16

Among other things, in the method of claim 16, processing the encoded data packets comprises: bit-to-byte converting and trellis deinterleaving the encoded data packets; and derandomizing the encoded data packets after removal of the trailing portion.

For similar reasons to those set forth above with respect to claim 6, Applicant respectfully submits that the cited art does not disclose these features.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 16 is patentable over the cited art.

Claim 18

Among other things, the method of claim 18 includes randomizing data packets received at a standard vestigial sideband modulator from an enhanced vestigial sideband encoder.

As explained above with respect to claim 8, Choi specifically teaches away from this.

Accordingly, for at least this additional reason, Applicant respectfully submits that claim 18 is patentable over the cited art.

Claim 19

Among other things, the system of claim 19 includes an enhanced vestigial sideband (VSB) encoder including: a processing unit that derandomizes a remaining portion of each encoded data packet.

As explained above with respect to claim 1, no combination of the cited art would produce a system with an enhanced vestigial sideband (VSB) encoder that includes a processing unit that derandomizes a remaining portion of each encoded data packet.

Also among other things, the system of claim 19 includes a standard vestigial sideband modulator that receives data packets from the enhanced vestigial sideband encoder and includes a data randomizer.

As explained above with respect to claim 6, Choi specifically teaches away from this.

Accordingly, for at least these reasons, Applicant respectfully submits that claim 19 is patentable over the cited art.

Claim 20

Claim 20 depends from claim 19 and is deemed patentable for at least the reasons set forth above with respect to claim 19, and for the following additional reasons.

Among other things, in the system of claim 20, an enhanced vestigial sideband encoder is implemented within a studio and a standard vestigial sideband modulator is implemented with a transmitter.

As explained above with respect to claim 10, Applicant respectfully submits that the cited art fails to disclose such a combination of features.

Accordingly, for at least this additional reason, Applicant respectfully submits that claim 20 is patentable over the cited art.

**CONCLUSION**

In view of the foregoing explanations, Applicant respectfully requests that the Examiner reconsider and reexamine the present application, allow claims 1-20 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.

Respectfully submitted,

VOLENTINE & WHITT

By: 

Kenneth D. Springer  
Registration No. 39,843

VOLENTINE & WHITT  
11951 Freedom Drive, Suite 1260  
Reston, Virginia 20190  
Telephone No.: (571) 283.0724  
Facsimile No.: (571) 283.0740